

Notice of Allowability

Application No.

10/067,845

Examiner

Tarifur R Chowdhury

Applicant(s)

LEE, YUN-BOK

Art Unit

2871

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed on 07/21/04.
2. ☒ The allowed claim(s) is/are 12-22,24 and 25.
3. ☒ The drawings filed on 08 February 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application is in condition for allowance except for the presence of claims 1-11 to invention non-elected without traverse filed on July 31, 2003.

Accordingly, claims 1-11 have been canceled.

Allowable Subject Matter

2. Claims 12-22, 24 and 25 are allowed.
3. The following is an examiner's statement of reasons for allowance:
4. The prior arts of record do not anticipate or render obvious to one skilled in the art a method of forming an array substrate for an in-plane switching liquid crystal display device comprising various steps as claimed, more specifically the steps of forming an alignment layer over the substrate to cover the patterned second metal layer and simultaneously thermal-treating the alignment layer and the source and drain electrode are considered novel.
5. The newly cited reference, USPAT 6,156,583, USPAT 6,642,972 and US 2002/0093600 disclose a method of forming an array substrate for a liquid crystal display device wherein the steps include patterning the first metal layer using a first mask to form gate line having gate electrode, forming a gate insulating layer on the substrate to cover the patterned first metal layer, simultaneously patterning an active layer and an ohmic contact layer on the gate insulating layer using a mask, forming and patterning a second metal layer using a mask to form data line having a source and drain electrode. Similarly, the AIPA described in the instant application also discloses similar method steps as disclosed in the above patents and pre-grant publication. The AIPA further discloses that the heat treatment process of curing the alignment layer is generally executed under the condition of annealing the thin film transistor. The AIPA further discloses that however, since these processes are carried out at different times

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in the array process and cell process, there are problems of increasing the production cost and time. However, none of the prior arts alone or in combination with any other prior art references teach or suggest the method steps of forming an alignment layer over the substrate to cover the patterned second metal layer and simultaneously thermal-treating the alignment layer and the source and drain electrode, including all other recitations.

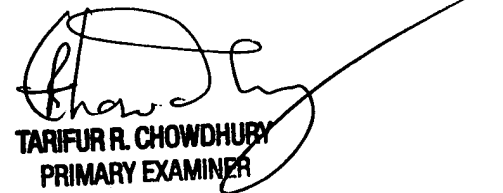
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC
August 14, 2004



TARIFUR R. CHOWDHURY
PRIMARY EXAMINER